

Blue Ridge RR: Crozet Tunnel  
Afton  
Nelson & Augusta Counties  
Virginia

HAER VA-2

HAER,  
VA.  
63-AFT.V,  
1-

ADDENDUM  
FOLLOWS...

REDUCED 8" x 10" DRAWINGS

*Addendum to*

Blue Ridge Railroad, Blue Ridge Tunnel  
(Crozet Tunnel)  
Adjacent to U.S. Route 250 at Rockfish Gap  
Afton Vicinity  
Nelson and Augusta Counties  
Virginia

HAER No. VA-2

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VA,  
63-APR.V

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PHOTOGRAPHS

WRITTEN HISTORIC AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
Washington, D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

VA-2

BLUE RIDGE RAILROAD-BLUE RIDGE TUNNEL

(CROZET TUNNEL)

DATE: 1850-1858.

LOCATION: Adjacent to U.S. Route 250 at Rockfish Gap  
Afton Vicinity, Augusta and Nelson Counties, Virginia.

DESIGNED: Claudius Crozet.

OWNER: Originally: Blue Ridge Railroad  
Presently: Chesapeake and Ohio Railroad

SIGNIFICANCE: The Blue Ridge tunnel was the longest tunnel in the United States upon completion. It is also the first tunnel in the U.S. driven without vertical shafts.

TRANSMITTED BY: Dan Clement.

The Blue Ridge Tunnel, also known as the Rockfish Tunnel and the Crozet Tunnel, is the longest tunnel (4,264 feet) engineered by Claudius Crozet. The mid-19th century tunnel is the longest of four tunnels designed for the Blue Ridge Railroad Company. The maximum degree of curvature is 10 degrees, 30 minutes and the maximum grade is 75 feet to the mile going westward.<sup>1</sup>

Construction of the tunnel began on February 14, 1850 with an estimated cost of \$200,000.00.<sup>2</sup> In 1853, after 900 feet of progress had been made digging in from the west side, a vein of water was breached.<sup>3</sup> Crozet helped eliviate the problem with a siphon some 2000 feet long. Crozet had tunneling begun at both ends with work proceeding toward a common middle. This was a unique way to tunnel and many critics thought the two shafts would never meet. But, on December 25, 1856, the Blue Ridge Tunnel was "holed through".<sup>4</sup> Although trains did not start running through the tunnel until April 13, 1858, the tunnel was seen as an amazing feat of engineering. In his book Tunneling, [New York, John Wiley & Son Inc., 1978], Henry S. Drinker proclaimead the Blue Ridge Tunnel to be the first long distance tunnel to be driven without the utilization of vertical shafts. Drinker also characterised the ventilation and drainage facilities as being of novel design.

Specifications for the Blue Ridge Railroad, which included the Blue Ridge Tunnel, were prepared by Crozet and a copy of the original fifteen page draft is located in the Library of Congress.<sup>5</sup> In there Crozet describes the shape of the tunnels as eliptical (in cross section) and states he calculated the resistance of the eliptical tunnel to be about double the resistance of a semicircular tunnel. Where loose rock required it the tunnel was arched with brick or sandstone.<sup>6</sup>

According to R. C. Tench P.E., a senior engineer of the present Chesapeake and Ohio Railway Company/ Baltimore and Ohio Railway Company stationed in Huntington, West Virginia, the Blue Ridge tunnel was closed in the early 1940's. The tunnel no longer provided the clearances required by the newer larger cars which were much more economical to operate on the line.

For more information on Claudius Crozet and the Blue Ridge Railroad please see HAER VA-3, Blue Ridge Railroad, Greenwood Tunnel.

- 1) Nelson, James P., Four Tunnels in the Blue Ridge Region of Virginia, Richmond, 1917 page 4.
- 2) Couper, Colonel William, Claudius Crozet: Soldier-Scholar-Educator-Engineer, Charlottesville: The Historic Publishing Co. Inc., 1936, p. 132.
- 3) Document No. 17, Va. Board of Public Works, 1853-54 pages 281 through 286.
- 4) Op cit. Couper, Colonel William page 161.
- 5) Ibid page 130.
- 6) Ibid p. 129.